

Work Order ID 85020

May-31-12 11:54:26 AM

85020

Page 1

Item ID: D205-634-041

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Replacement Skidtube

Start Date: 31/05/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 18/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: *MLJ*

Date: *12/05/31*

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D2580-041

(DEO) Rev.E

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG005

N/A

110

0.00

110

BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

[Handwritten signature]

12-6-27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Run Start ***NR1***

QC: _____ Date: _____

SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

0.00

120

Skidtubes

Memo

0.00

Skidtubes

1- Deburr ends and remove bending marks

2- Prepare tube for welding as per QSI 004

1 *BB 12/06/27*

130

QC5- Inspect part completeness to step on W/O

0.00

130

QC

Memo

0.00

Quality Control

1 0 BE 12/06/27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Tooling:

Date:

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QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140		0.00							

140

Skidtubes

Skidtubes

Memo

0.00

1-Weld step D2576 as per Dwg. D2580 and QSI 004
A/R Aluminum Rod *M122130*

2-Grind welds on step as per Dwg D2580

3- Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x17G to start expansion and finish with 1/2 x 18G to achieve dwg dimation.

4-Drill holes for wearplates using DT 8217 & DT8937, 7.40" from most fwd saddle holes (ref only) Open holes to 19/64", adjust stopper not to hit web. Debur

5-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

6-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

7BE 12/06/07

*- De 12/07/05
B 12/07/05*

> CF 12-7-6

150

QC10- Inspect visual per QSI004- ground welds

0.00

150

QC

Memo

0.00

Quality Control

End cap only

S 12/02/09

W/O:		WORK ORDER CHANGES					
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Stop ***NR2***

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160 QC5- Inspect part completeness to step on W/O

0.00

160

QC

Memo

0.00

Quality Control

170 Pressure Wash per QSI005 4.3

0.00

170

HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.

180 White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

180

Powdercoat

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

11:50
32001
12:20

1 7/6 12-79

IX Ø m/f 12/07/09

m121841

W/O:		WORK ORDER CHANGES					
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Run Start ***NR1***

QC: Date:

SPC (Y/N): Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
---------	--------	-----------	------------	------------	---------------	-------------

190

QC3- Inspect Part Finish

0.00

190

QC

Memo

0.00

Quality Control

1 ~~5~~ (2P) 12/07/09.

W/O:		WORK ORDER CHANGES					
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Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

200

0.00

200

HandFinish

Hand Finishing

Memo

0.00

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R Sikaflex-291 12/130Sikaflex expire date: 14/03

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive

A/R Sikaflex-291 12/130Sikaflex expire date: 14/03

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch: 122 3201   12/07/10

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1

Cust Item ID:

Required Date: 18/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
---------	--------	-----------	------------	------------	---------------	-------------

210

QC5- Inspect part completeness to step on W/O

0.00

210

QC

Quality Control

Memo

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

0.00

8/16/11

(X)

220

0.00

220

Packaging

Packaging

Packaging

Memo

Identify and pack for shipping as per PPPD205-634-041

Location:

PPP Rev:

PPPD85878

0.00

230

0.00

230

QC

Quality Control

QC21- Final Inspection - Work Order Release

Memo

0.00

10/12/17/13(1)

12/17/17

MF

12-07-13

W/O:		WORK ORDER CHANGES					
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May-31-12 11:54:29 AM

Page 1

Work Order ID: 85020

85020

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 31/05/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:N 02.08.28 FP was QC5 in Step 27: Added QC5 to Step 30
 KJ IPP Rev P 10.02.19
 per PAR09-043 EC verified by:DD
 IPP Rev: O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q
 10.12.01 as per chg003 DD ver:EC IPP REV:R 12.01.23 AS
 PER ECN11-684 VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4202-1		Manufactured	No			140	Each	81.0000	20	20			

D4202-1
Spacer

**

DC 12/07/05
B 28

Location	Loc Qty	Loc Code
LG	5	
77727	5	
LG002	76	
78806	6	
79810	70	

D2580-1 Manufactured No

110 Each 4.0000

1

1

D2580-1
205 Skidtube bent detail

**

DP 12-6-27

Location	Loc Qty	Loc Code
LG	4	
76570	2	
77679	2	

D2576-3 Manufactured No

140 Each 77.0000

1

1

D2576-3
Step (maching detail)

**

DC 12-06-27

Location	Loc Qty	Loc Code
LG	77	
74136	25	
82257	52	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Work Order ID: 85020

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

85020

D205-634-041

Start Date: 31/05/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2855 Manufactured No

200 Each

21 0000 1 1

D2855

Cap

**

1 (SP) 12/07/09

Location

Loc Qty

Loc Code

FP002

84952 ✓

21

65519

2

73347

16

75074

3

AN3-5A

Purchased No

200 Each

1,090.000 2 2

AN3-5A

Bolt

**

2 (SP) 12/07/09

Location

Loc Qty

Loc Code

ST350

1090

115371

46

117423

124

118626

31

119355

200

120187 ✓

500

121185

189

AN960JD10L

✓ NAS1149D0332J ✓ Purchased

No

200 Each

0.0000 2 2

*AN960JD10I *

Washer

**

12/01 ✓ 2 (SP) 12/07/09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Parent Item Name: Replacement Skidtube

85020

D205-634-041

Start Date: 31/05/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

ALS7-1032-130

Purchased

No

200

Each

2.136.000

50

50

AI S7-1032-130

Insert

**

50

2P 12/07/09

Location

Loc Qty

Loc Code

ST280

121269✓

51

117717

27

118966

22

119775

2

ST282

2085

119530

73

120181

12

121444

2000

AN3C4A

Purchased

No

200

Each

1.362.000

50

50

AN3C4A

BOLT

**

50

2P 12/07/09

Location

Loc Qty

Loc Code

ST350

12251✓

1362

120187

57

120521

28

120769

38

121205

1000

121556

239

AN960C10L

NAS1149C0332

Purchased

No

200

Each

0.0000

50

50

*AN960C10I *

washer

**

50

2P 12/07/09

122063✓

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Parent Item Name: Replacement Skidtube

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D205-634-041

Start Date: 31/05/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3566-13

Manufactured No

200 Each

13.0000 1 1

D3566-13

Gasket

**

1 (28) 12/07/09

Location

Loc Qty

Loc Code

FP

12

83351 ✓

12

FP002

1

76947

1

D3566-5

Manufactured No

200 Each

21.0000 1 1

D3566-5

Gasket

**

1 (28) 12/07/09

Location

Loc Qty

Loc Code

FP

12

82275

12

FP002

9

80374

3

82274

6

D3566-1

Manufactured No

200 Each

27.0000 2 2

D3566-1

Gasket

**

2 (28) 12/07/09

Location

Loc Qty

Loc Code

FP

-26

81619

6

FP002

53

68924

2

80919

3

83898

16

May-31-12 11:54:29 AM

Shop Packet Print

Page 4

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D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 31/05/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3564-11

Manufactured No

200 Each

30.0000 1 1

D3564-11

Wearshoe

**

1 (SP) 12/07/09.

Location	Loc Qty	Loc Code
FG	4	
77056	4	
FP001	26	
80341	4	
83910 ✓	22	

D3564-13

Manufactured No

200 Each

26.0000 1 1

D3564-13

Wearshoe

**

1 (SP) 12/07/09.

Location	Loc Qty	Loc Code
FP001	1	
71594	1	
FP002	25	
80342	3	
82249 ✓	22	

D3564-9

Manufactured No

200 Each

20.0000 1 1

D3564-9

Wearshoe

**

1 (SP) 12/07/09.

Location	Loc Qty	Loc Code
FG	4	
76950	4	
FP001	16	
67590	4	
69943	1	
82255	11	

84870 ✓

W/O:		WORK ORDER CHANGES					
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Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3564-5

Manufactured No

200

Each

13.0000

1

1

D3564-5

Wearshoe

**

16

12/07/09

Location

Loc Qty

Loc Code

FG

84869✓

2

34806

2

FP001

11

77609

3

82254

8

D2594-3

Manufactured No

200

Each

2,418.000

16

16

D2594-3

O-Ring, 205 Skidtube

**

16

16

12/07/09

Location

Loc Qty

Loc Code

FP001

2418

65518

41

79496

984

79573

50

79755✓

1343

D2594-1

Manufactured No

200

Each

311.0000

16

16

D2594-1

Plug, 205 Skidtube

**

16

16

12/07/09

Location

Loc Qty

Loc Code

FP001

98

73401

30

74442

18

79495

50

FP-A

213

73401

0

78590

213

84951✓

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LIST OF MATERIALS					
ITEM	QTY -041	QTY -045	QTY -047	PART NUMBER	DESCRIPTION
1	X			D2580-041	SKIDTUBE ASSEMBLY
2		X		D2580-045	SKIDTUBE ASSEMBLY
3			X	D2580-047	SKIDTUBE ASSEMBLY
4	1	1	1	D2500-1-190	EXTRUSION
5			16	D2570	BUSHING
6	1	1	1	D2576-3	STEP
7	20	24	25	D2579	SPACER
8	16	16	8	D2594-1	PLUG
9	16	16	8	D2594-3	O-RING
10	1	1	1	D2596	205 WEB
11	1	1	1	D2855	AFT CAP
12	1	1		D3564-5	WEARSHOE
13	1	1		D3564-9	WEARSHOE
14	1	1		D3564-11	WEARSHOE
15	1	1		D3564-13	WEARSHOE
16	2	2		D3566-1	GASKET
17	1	1		D3566-5	GASKET
18	1	1		D3566-13	GASKET
19			1	D4406-041	WEARPLATE ASSEMBLY
20			1	D4406-043	WEARPLATE ASSEMBLY
21	50	50		ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
22	50	50		AN3C4A	BOLT
23	2	2	2	AN3-5A	BOLT
24			8	AN4-45A	BOLT
25	50	50		NAS1149C0332R	WASHER (AN960C10L)
26	2	2	2	NAS1149D0332J	WASHER (AN960JD10L)
27			8	MS21042-4	NUT (OR MS21042L4)

GENERAL NOTES:

- 1) MATERIAL N/A
- 2) FINISH: CHEMICAL CONVERSION PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ASSEMBLY (-041/-047) GLOSS WHITE (REF 4 3 5 1) PER DART QSI 005 4 3
POWDER COAT ASSEMBLY (-045) GREEN SANDEX (REF 4 3 5 8) PER DART QSI 005 4 3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4 4
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D2580-041 = 34.5 lbs
D2580-045 = 34.5 lbs
D2580-047 = 37.7 lbs
- 8) WELDING PER DART QSI 004
- 9) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 10) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE
- 11) USE DART DRILL TEMPLATE DT8217 & DT8937 ONLY FOR D2580-041/-045 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTIONS B-B AND F-F (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/-291
- 12) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES FOR D2580-041/-045 AND 8 PLACES FOR D2580-047)
- 13) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

DEO ATTACHED

RELEASED

2011-08-29

SHOP COPY
RETURN TO
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UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 25020 MLCJ
12/05/31

E	ADD D2580-047 (ZN C4-7) AND D2580-7 (ZN B3-8); INCLUDED DEO D2580-D-1; REFORMATTED DRAWING TO CURRENT STANDARDS, DT8217 & DT8937 WAS T02577-205 (ZN C4-1)	RF	11 06 21
D	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	PH	07 04 05
C	REDRAWN, INCLUDED DEO 9094/9097	CP	98 08 26
B	AS MANUFACTURED	DS	96 12 02
A	NEW ISSUE	DS	96 09 16
REV.	DESCRIPTION	BY	DATE
DESIGN	#	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	MP		
MFG. APPR.	DS		
APPROVED	MP		
DE APPR	#	DRAWING NO. D2580 TITLE 205 SKIDTUBE ASSEMBLY SCALE NTS	
DATE	11.06.21	COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS COVENANT THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

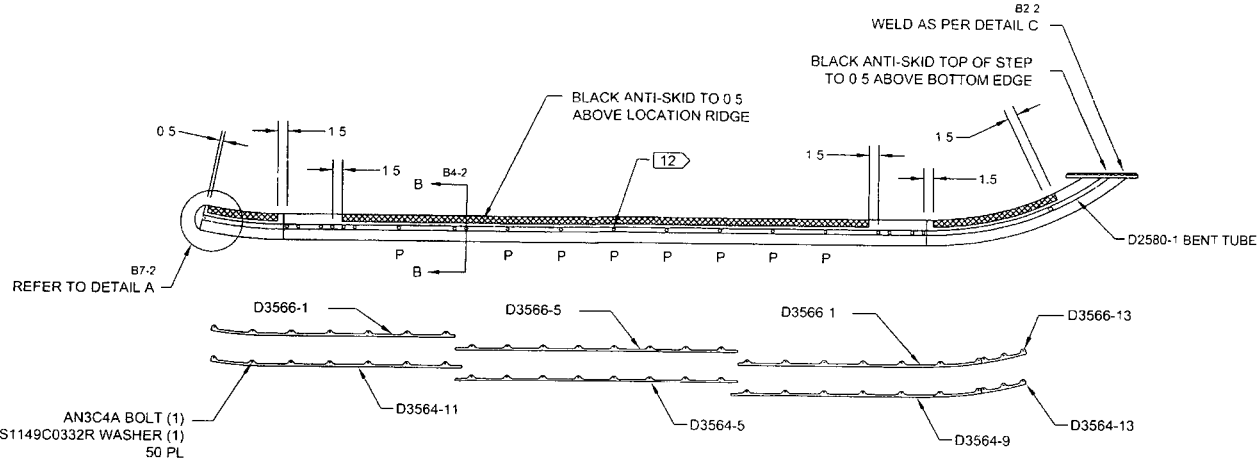
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

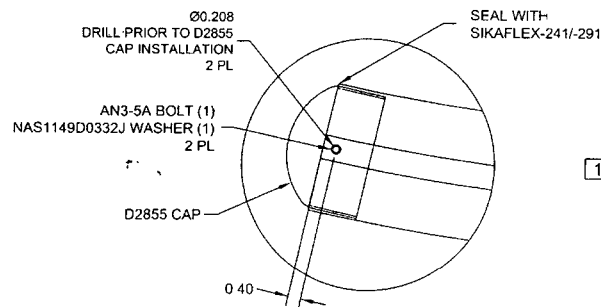
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

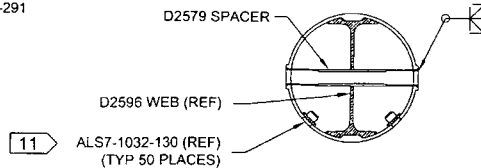


D2580-041 ASSEMBLY DETAIL

DETAIL A C7-2
SCALE 5X

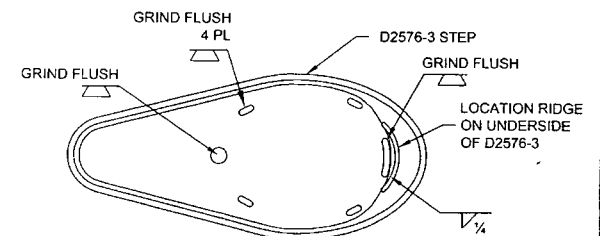


D5-2
SECTION B-B
SCALE 5X



AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

DETAIL C D3-2
SCALE 5X



DESIGN	4	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	10	DRAWING NO.	REV. E
MFG APPR	10	D2580	SHEET 2 OF 8
APPROVED	10	TITLE	SCALE
DE APPR.	10	205 SKIDTUBE ASSEMBLY	NTS
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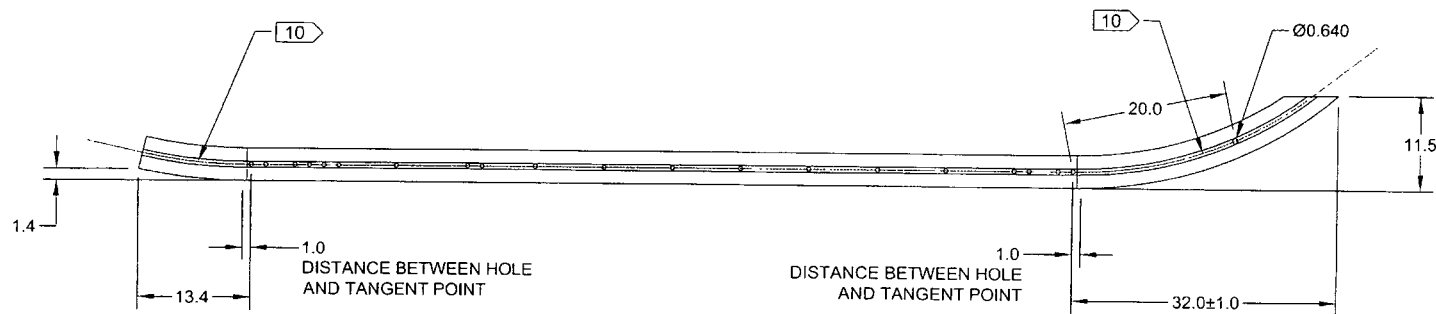
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			






NOTE: Date & initial all entries



D2580-1 BENT TUBE
(MAKE FROM D2580-101 TUBE)

DEO ATTACHED

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2011-08-28
JW

DESIGN		DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D2580	SHEET 3 OF 8
APPROVED		TITLE	SCALE
DE APPR.		205 SKIDTUBE ASSEMBLY	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DEO ATTACHED
RELEASED
2011-08-29
MP



DS-5



DETAIL G
SCALE 5X

D3-5

GRIND FLUSH

4 PL

D2576-3 STEP

GRIND FLUSH

LOCATION RIDGE ON UNDERSIDE OF D2576-3

1/4

DESIGN	#	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	10	DRAWING NO.	REV. I
MFG APPR.	N	D2580	SHEET 4 OF
APPROVED	10	TITLE	SCALE
DE APPR	#	205 SKIDTUBE ASSEMBLY	NT
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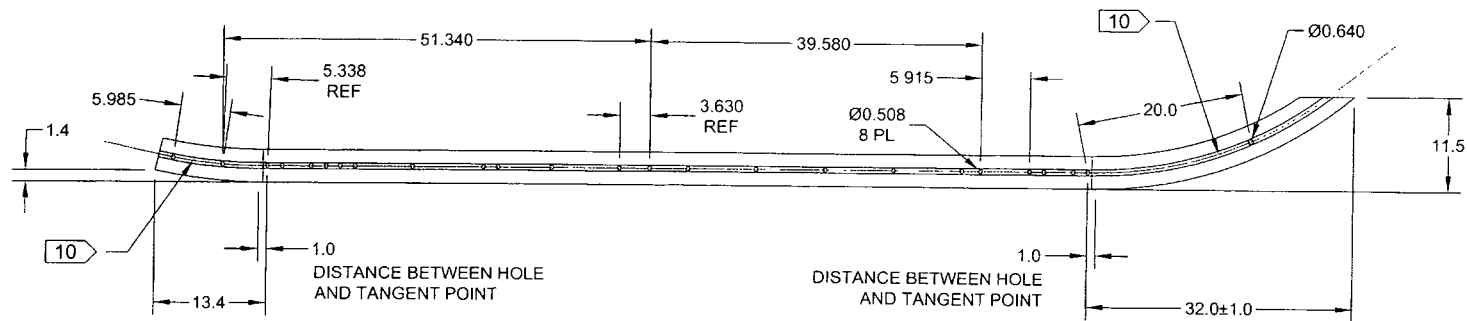
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2580-5 BENT TUBE
(MAKE FROM D2580-101 TUBE)

DEO ATTACHED

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2011-08-29

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	RF	DRAWING NO	REV. E
MFG. APPR	RF	D2580	SHEET 5 OF 8
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

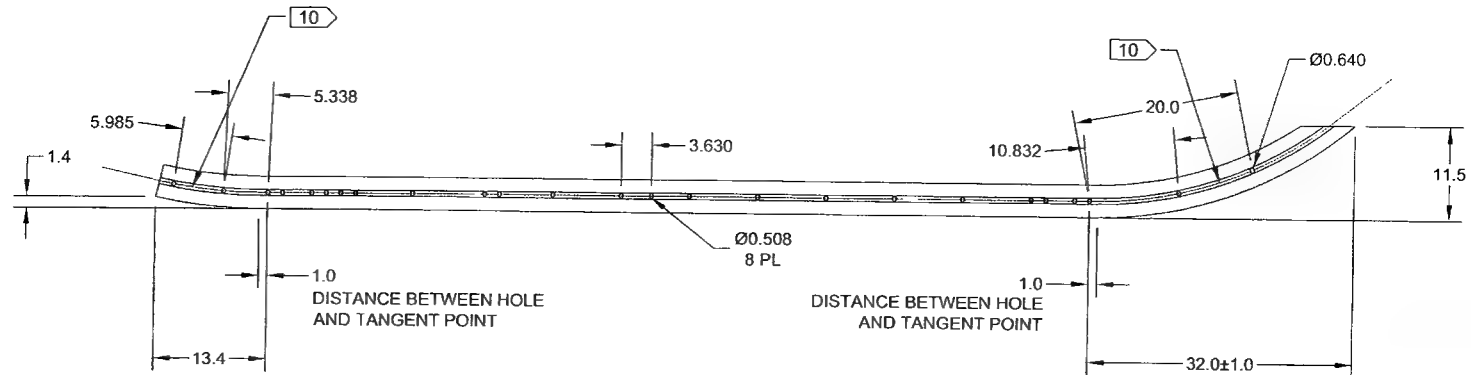
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

25020



D2580-7 BENT TUBE
(MAKE FROM D2580-101 TUBE)



DEO ATTACHED
RELEASE
2011-08-29
AND

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. E
MFG. APPR.	RF	D2580	SHEET 7 OF 8
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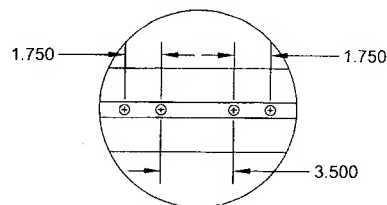
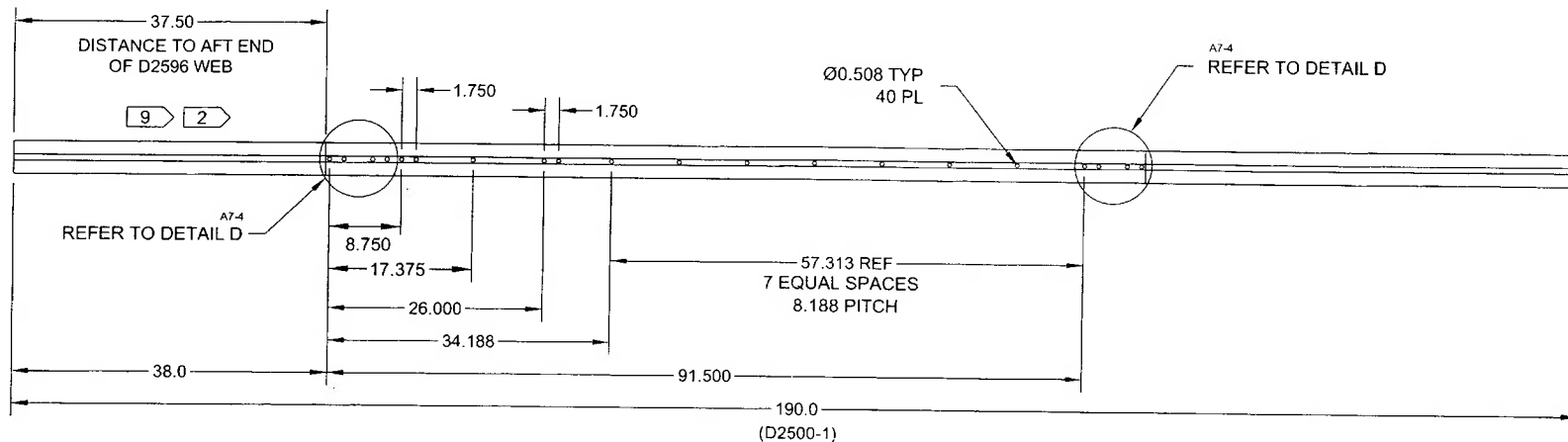
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DETAIL D D3-4
C7-4
SCALE 5X

D2580-101 TUBE

DEO ATTACHED
RELEASED
2011-08-29

DESIGN	#	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	10	DRAWING NO.	REV. E
MFG. APPR.	10	D2580	SHEET 8 OF 8
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DRAWING NO. D2580	TITLE 205 SKIDTUBE ASSEMBLY	REV. E	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D2580-E-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>ASS</i>	MFG. APPR. <i>ER</i>	APPROVED <i>[Signature]</i>	DE APPR. <i>[Signature]</i>		
DATE 11.12.13	DATE 11.12.13	DATE 11.12.13	DATE 11.12.13	DATE 11.12.13		

PURPOSE:

CHANGE ALL C'BORED WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

CHANGE:

PARTS LIST IS AMENDED AS FOLLOWS:

WAS

QTY	QTY	QTY	PART NUMBER	DESCRIPTION
-041	-045	-047		
20	24	25	D2579	CROSS BOLT SPACER

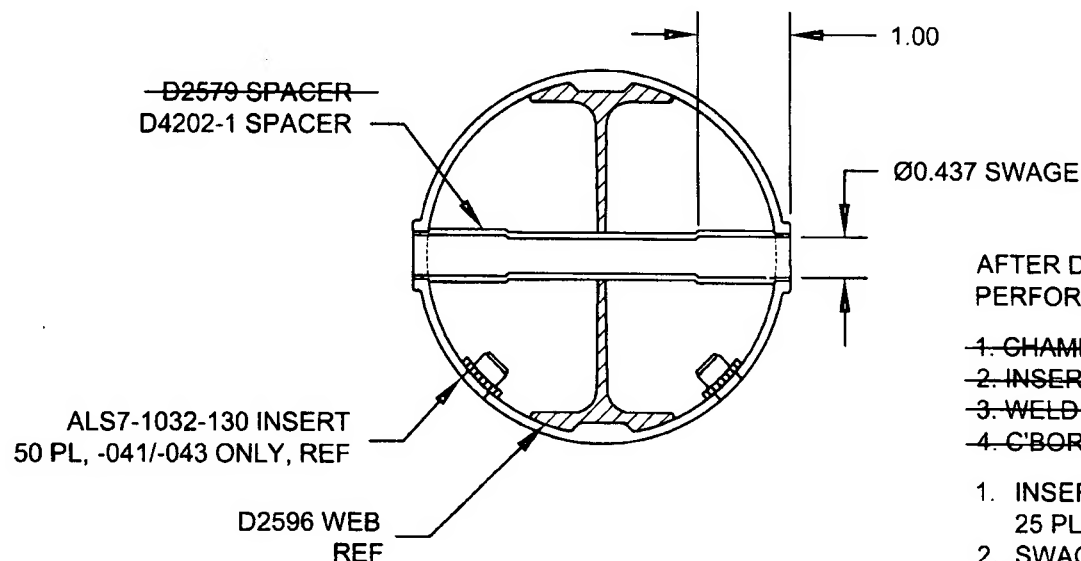
IS

	4		* D2579	CROSS BOLT SPACER
20	20	25	D4202-1	SPACER

SECTION B-B, SECTION F-F, & SECTION I-I ARE AMENDED AS FOLLOWS
FOR ALL HOLES THAT WERE ORIGINALLY C'BORED:

*** FOR -045 SKIDTUBE ONLY:**

WELD 4X D2579 SPACERS PER DWG
IN LOCATIONS MARKED "NO C'BORE".
REF SHEET 4 OF DWG.



SECTION B-B, F-F, I-I
NOT TO SCALE

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

- ~~1. CHAMFER HOLE 0.060 X 45°~~
- ~~2. INSERT D2579 SPACER (20 PLACES)~~
- ~~3. WELD INTO PLACE AND GRIND FLUSH~~
- ~~4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP~~

1. INSERT D4202-1 SPACER, 20 PL (-041) OR 20 PL (-045) OR 25 PL (-047)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

RELEASED
2011-12-14 *[Signature]*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries